

# RM-V4000VE RM-V5000VE

MULTI TYPE PROJECTION UNIT  
UNITÉ DE PROJECTION MULTIPLE  
MULTIPROJEKTIONSGERÄT  
UNITÀ DI MULTIPROIEZIONE  
UNIDAD DE MULTIPROYECCIÓN

English

Français

Deutsch

Italiano

Español

The model number and the serial number of this Projection Unit are located on the rear panel.

**WARNING:** TO PREVENT FIRE OR SHOCK HAZARD. DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

## IMPORTANT 1



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of unisolated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

### CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN

**CAUTION:**  
TO PREVENT THE RISK OF ELECTRIC SHOCK,  
DO NOT REMOVE COVER (OR BACK). NO USER-  
SERVICEABLE PARTS INSIDE. REFER SERVIC-  
ING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Thank you for purchasing this PIONEER PROJECTION UNIT.  
Carefully read these operating instructions before use.  
Keep them together in a safe place.

INTRODUCTION

This product is designed to complete the system consisting of the PIONEER screen kit, cabinet, and projection cabinet (for rental).  
For details of how to mount on the screen kit, cabinet, and projection cabinet (for rental use), etc., refer to the Technical Manual.

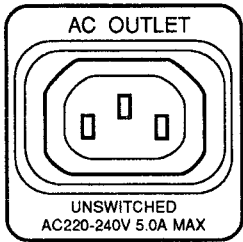
Compatibility Table

Screen Kit	Cabinet	Projection Cabinet (For rental use)
RMS-V4011	RMF-V4011	RMF-V4011R
RMS-V5011	RMF-V5011	
(Projection screen Kit)	(Projection cabinet)	(Projection cabinet)

AC OUTLET ⚠

**AC outlet (nonlinkage switch, 5.0A or less)**  
Use when expanding the Multiprojection unit. Do not use for other purposes.  
**Power consumption of a power supply plug**  
Up to two other Multiprojection units can be connected to a Multiprojection unit.

- If the power supply voltage exceeds 255V, the current consumption may increase sharply. If the power supply voltage is unstable and may exceed 255V, consult your PIONEER dealer.



The following symbols are found throughout this manual and labeled on the product. They alert the operators and service personnel of this equipment to potentially dangerous conditions.

⚠ WARNING

This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

⚠ CAUTION

This symbol refers to a hazard or unsafe practice which can result in personal injury or property damage.

⊘ This symbol indicates an action that is prohibited.

⚠ **CAUTION:** When positioning this equipment , ensure that the mains plug and socket in are easily accessible.

*This product complies with the Low Voltage Directive (73/23/EEC), EMC Directives (89/336/EEC, 92/31/EEC) and CE Marking Directive (93/68/EEC).*

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## Precautions Upon Use

### ● Observe the following important precautions when installing and moving the unit.

The greater the size of the TV unit, the more it will be affected by terrestrial magnetism. To obtain clear Hi-Fi images, install carefully so as to avoid steel objects nearby and concentrated cables.

Do not install near equipment with strong magnetism such as large speaker systems, etc. Influence from such magnetism will distort color tone and cause the image to appear shaky. When installing speaker systems without anti-magnetism measures, leave a space of more than 1m.

### ● Condensation

Condensation is one problem which may be faced in the winter season. When the temperature in a room installed with a multi projection unit rises suddenly, condensation occurs on the lens, and as a result, the system may not display its best performance. In such cases, turn ON the power of the system after waiting more an one hour. Another solution is to increase the room temperature slowly.

### ● Ventilation (Install in a well-ventilated room)

To prevent internal temperature from rising, the system is equipped with a fan in its rear panel and two sides. Install carefully ensuring that the vents are not blocked.

### ● When problems occur

If abnormal sound, smell, or smoke is produced, disconnect the power cable from the electrical outlet immediately, and ask your nearest PIONEER authorized service center or your dealer for inspection repair service.

### ● Never disassemble the system

Do not open or remove the rear panel and hood of the system. This is extremely hazardous as the high voltage sections inside may cause electric shock. Should internal inspections, cleaning, or adjustments be required, ask your nearest PIONEER authorized service center or your dealer for inspection repair service.

### ● When objects fall inside the system

If metallic foreign objects such as wires and pins, paper, matches, etc. are inserted or dropped inside the system through vents, malfunctions or electric shocks will occur. In such cases, disconnect the power cable from the electrical outlet immediately, and ask your nearest PIONEER authorized service center or your dealer for inspection repair service.

### ● When not using for long periods

When not using the system for a long period of time, disconnect the power cable from the electrical outlet.

### ● Avoid exposure to water

Do not place vases, fish tanks, or cups containing water on the system. Should the water from these containers drop inside the system by accident, disconnect the power cable from the electrical outlet immediately, and ask your nearest PIONEER authorized service center or your dealer for inspection repair service.

## POWER CABLE

- Use the appropriate power cable (product conforming to Safety Standards) for the country in which the product is used. As this product must be grounded for safety reasons, the three-core power cable (with ground) must be used.

For your reference, the electrical specifications of the power cable are provided below.

#### U.K.

Cord ..... Cross-sectional area 3 x 1.0 mm<sup>2</sup>  
(According to CEE 13)

Connector .... 10A 250V ~ (According to EN60320 Sheet C13)

Plug ..... UK13 Amp Plug with rated 13 Amp fuse (According to BS1363)

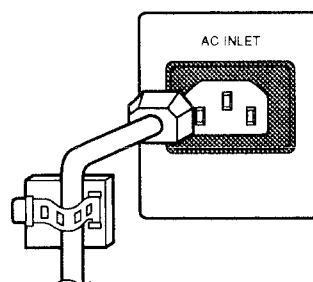
#### Europe

Cord ..... Cross-sectional area 3 x 1.0 mm<sup>2</sup>  
(According to CEE 13)

Connector .... 10A 250V ~ (According to EN60320 Sheet C13)

Plug ..... 10/16A 250V ~ (According to CEE7, IV)

- To prevent the electrical cord from accidentally becoming disconnected, be sure to fix it in place using a cable clip so that it is not subject to stress.



## WARNING:

**THIS APPARATUS MUST BE EARTHED.**

## Connection with a power supply ⚠

### 1. Power supply voltage

The operation guarantee voltage of this unit is within the range of  $\pm 10\%$  of the rated voltage.

However, a high impedance at the power supply wiring may result in a distortion of voltage waveform which is practically the same as a voltage drop. Even if the voltage value is within the acceptable range, you have to be careful about it in the cases below. Please check the wiring of the power supply if any one of them is applicable.

- When the voltage drop between the control panel and the Multiprojection unit is excessive.
- When the voltage fluctuation by the power ON and OFF of the Multiprojection unit is excessive. (Refer to the value of 5% of the rated voltage.)

NOTE: If the power supply voltage is unstable and may exceed 255V, consult your PIONEER dealer.

If the power supply voltage exceeds 255V, the power factor improvement circuit will stop working and the apparent current will flow. A special design and treatment that is different from 2 and 3 below will therefore be required.

### 2. Capacity of power supply

Calculate the power consumption of one unit as 500 VA, slightly greater than it is actually.

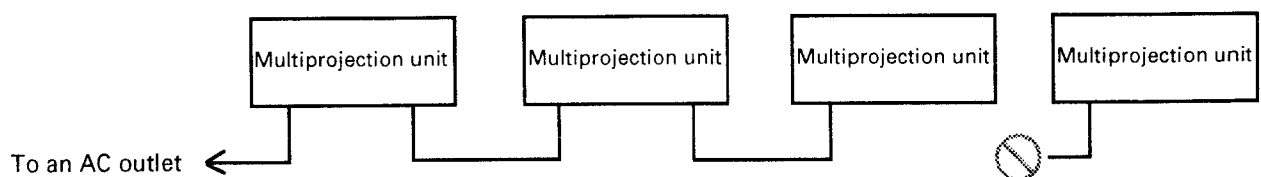
Multiprojection Unit Screen	Power Supply Capacity	Current capacity	
		220V	240 V
1 Screen	500 VA	2.3 A	2.1 A
4 Screens	2000 VA	9.1 A	8.3 A
9 Screens	4500 VA	20.5 A	18.8 A
12 Screens	6000 VA	27.3 A	25.0 A
16 Screens	8000 VA	36.4 A	33.3 A

The current increases when the voltage decreases. Refer to 3. Connection and design generously.

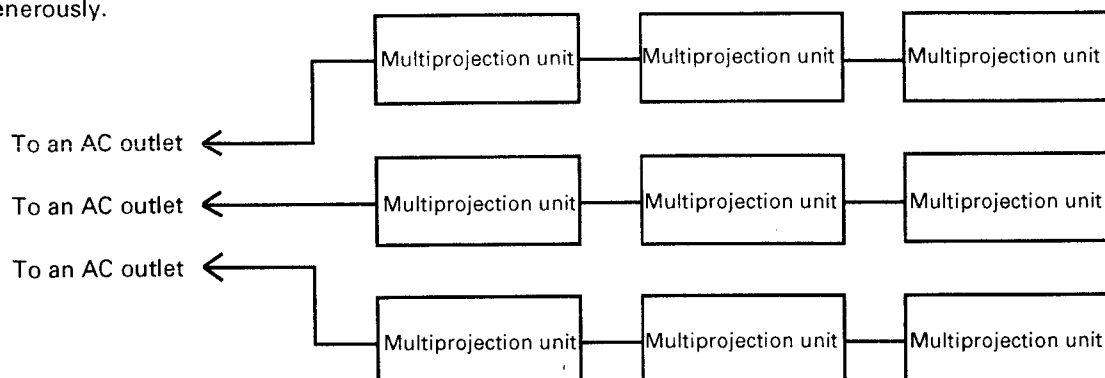
When connecting other equipment to the same system (same distribution panel), take note of the power consumption of that equipment and ensure that it does not exceed a capacity of the distribution panel.

### 3. Connection

This unit has an AC outlet. Up to two other multiprojection units can be connected to a Multiprojection unit. Do not connect equipment other than the multiprojection unit to the AC outlet.



Ensure that the current capacity of the distribution panel is not exceeded when connecting the equipment. And set generously.



#### 4. Note

Leave the installation of the unit to technicians.  
Should you have any questions, consult them.

#### 5. 3P plug

The power cord of the unit has a 3P plug. Since it is intended for electrification protection against a leakage current, make sure to plug it in a 3P outlet.

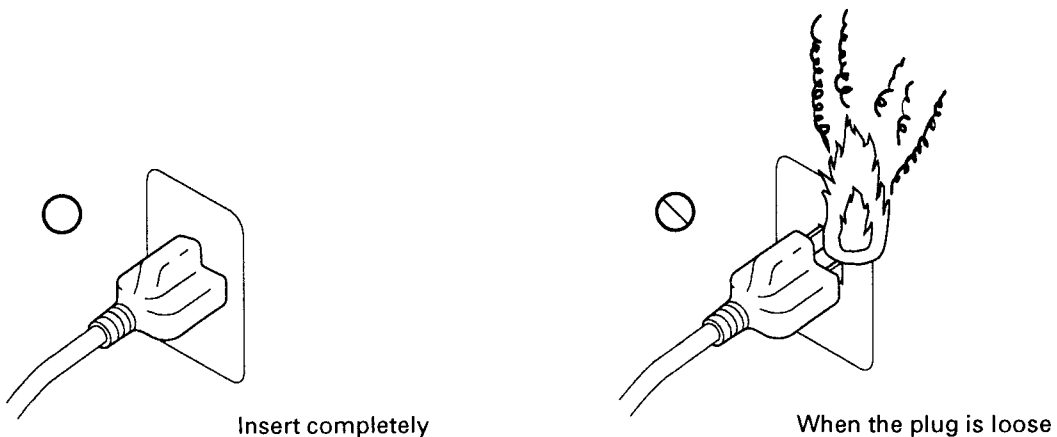
#### 6. Leakage current breaker

The unit has a built-in power supply line filter for noise reduction and for that reason, a leakage current of 0.5 mA per unit is constantly present. If there is a leakage current braker, make sure that its sensitivity exceeds the total value of the leakage current of the system.

Make calculation based on a leakage current of 0.5 mA per unit with the devices of the video processing system, etc.

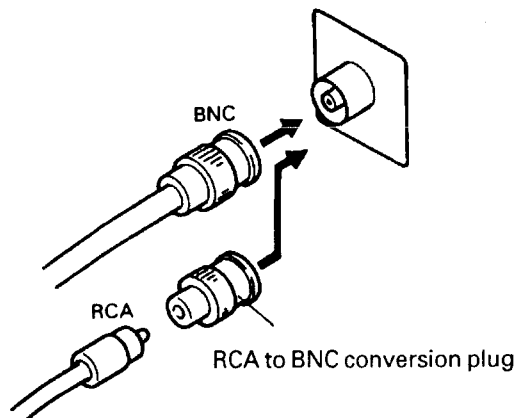
#### 7. Completely plug in the cord

If the cord is connected to an outlet or table tap with loose contact point, it may cause a heating which eventually results in a fire because of the contact resistance of the outlet and plug.



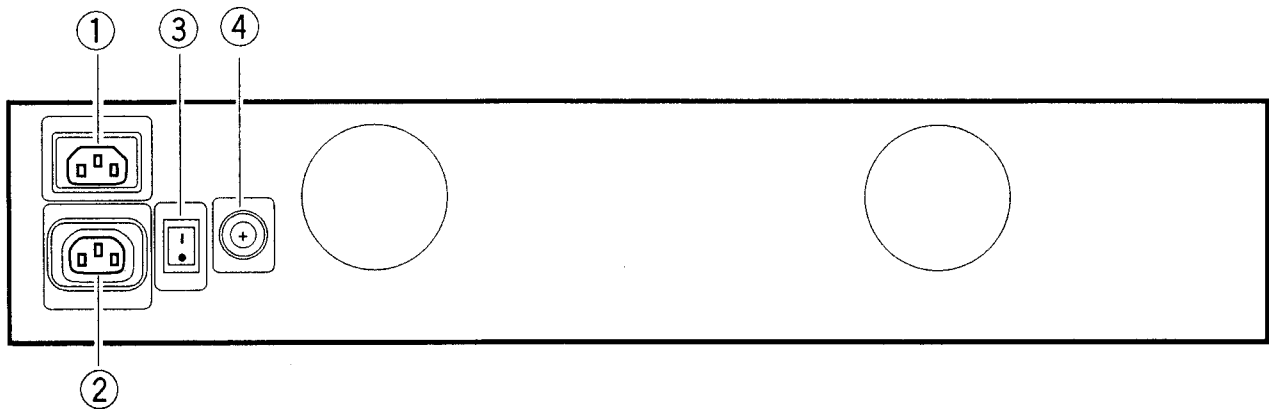
#### Connection with AV devices

- For this unit, a BNC terminal is used for video input because of its reliability. When a connection cable with an RCA terminal is to be used, use an RCA to BNC conversion plug.



# Names and functions of each section

## Power supply panel

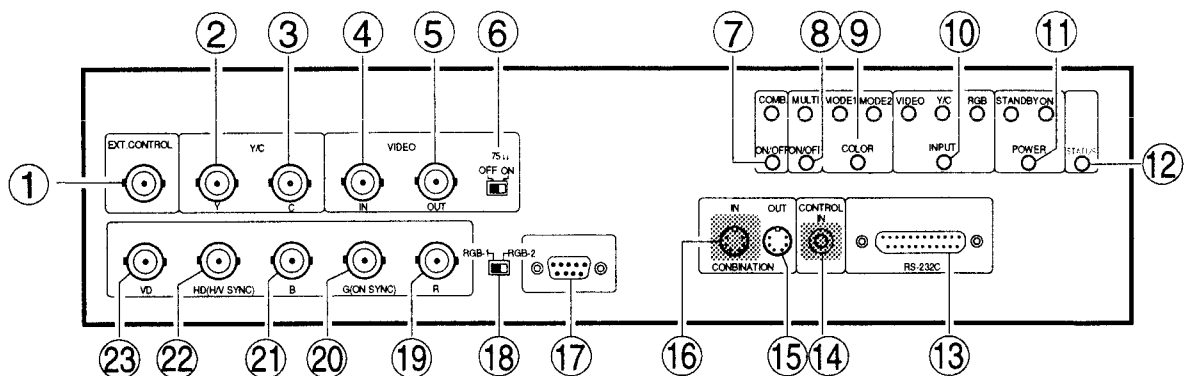


No.	Name	Type	Functions
①	AC inlet		Plugs in the power cord. Note 1)
②	AC outlet		Other projection unit is connected. Has no linkage with the main power switch. Note 2)
③	Main power switch	Seesaw switch	Switches ON/OFF the power supplied to the main unit. When it is ON (I), the unit goes into the standby mode.
④	Fuse holder		Accommodates the fuse. Do not touch it unless you are a servicing agent.

Note 1) See page 3.

Note 2) Refer to the item 3. Connections under Connection with a power supply on Page 4.

## Control panel section



Number	Name	Type	Functions
①	Control input terminal	BNC connector	External changeover control signal input terminal of video input and Y/C input
②	Y (luminance) input terminal	BNC connector	Luminance signal input terminal
③	C (color) input terminal	BNC connector	Color signal input terminal
④	Video input terminal	BNC connector	Input terminal of video signal
⑤	Video output terminal	BNC connector	Throughout terminal of the video input terminal ④
⑥	Terminal switch	Sliding switch	Terminates the video input terminal ④ with 75Ω
⑦	COMBINATION switch	Tact switch	Switch it ON to link ABL
⑧	MULTI switch	Tact switch	Switch it ON for multi-display
⑨	COLOR MODE switch	Tact switch	Switches the color temperature. 1: Normal 2: Retake
⑩	INPUT changeover switch	Tact switch	Changeover switch of VIDEO input, Y/C input, and RGB input. In VIDEO position, changeover of VIDEO input and Y/C input is possible with an external changeover control signal of ①.
⑪	POWER switch	Tact switch	When the power is STANDBY: STANDBY (Red LED) lights up When the power is ON: ON (Green LED) lights up
⑫	STATUS indication switch	Tact switch	Accumulated operation time*, setting of each switch, etc.
⑬	RS-232C port	D-sub25PIN (Female)	Connector for RS-232C communication
⑭	Remote control connection terminal	Minijack	Connects a remote control unit for adjustment (sold separately)
⑮	Linking output terminal	DIN6PIN	Output terminal of ABL, remote control signal, and RS-232C signal
⑯	Linking input terminal	DIN6PIN	Input terminal of ABL, remote control signal, and RS-232C signal
⑰	RGB input terminal	D-sub9PIN (Male)	RGB signal input terminal
⑱	RGB input changeover switch	Sliding switch	Switches the RGB input terminal type
⑲	RGB input terminal (R)	BNC connector	Input terminal of RGB signal R
⑳	RGB input terminal (G/ composite sink)	BNC connector	Input terminal of RGB signal G and composite sink (at the time of input signal sink ON. G only)
㉑	RGB input terminal (B)	BNC connector	Input terminal of RGB signal B
㉒	RGB input terminal (Horizontal synchronization/ composite sink)	BNC connector	Input terminal of RGB signal - Horizontal synchronization and composite sink (at the time of input signal H/V sink only)
㉓	RGB input terminal (Vertical synchronization)	BNC connector	Input terminal of RGB signal - Vertical synchronization

- For details of the control and adjustment methods by RS-232C and wired remote control unit (sold separately), refer to the separately bound Technical Manual.
- To turn off the power, use the POWER switch ⑪ of the main unit, RS-232C control, or optional wired remote controller. (If using the main power supply switch to turn off the power or disconnecting the power cable from an outlet, current setting conditions of the above switches ⑦ to ⑪ can not be memorized.)

\*: Counts only when the power is ON and a signal is input to the selected input function at the same time. When the main power switch is OFF or the power cord is disconnected from the outlet while the POWER is ON in short intervals less than one hour, count number error may occur.

## Mode switches on the control panel

### ● COMBINATION switch



Position	Function
OFF	ABL linkage is cut off
ON	ABL linkage is on

- Pressing the switch alternates ON and OFF. LED lights up when it is ON.

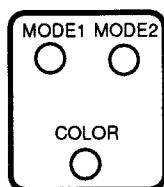
### ● MULTI switch



Position	Function
OFF	Sets the picture quality suitable for single screen display
ON	Set the picture quality suitable for multi-screen display

- Pressing the switch alternates ON and OFF. LED lights up when it is ON.

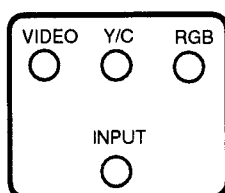
### ● COLOR MODE switch



Position	Function
MODE1	Set the color temperature for normal use. When selected, LED of MODE1 lights up.
MODE2	Set the color temperature for retake use. When selected, LED of MODE2 lights up.

- Pressing the switch alternates MODE1 and MODE2.

### ● INPUT changeover switch



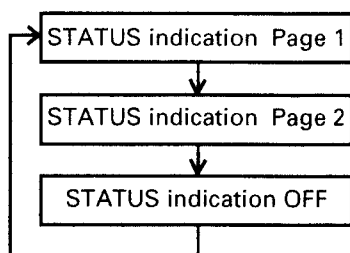
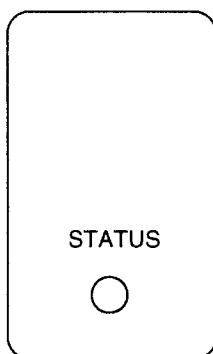
- Each time the switch is pressed, the position changes.
- When signals with different frequencies are switched, it will take several seconds for the proper picture to be displayed. If signals are switched in periods shorter than this, the power may be turned off to protect the internal parts. In such cases, turn off the main SW once and turn on the power.

Position	Function
VIDEO	<p>Selects the VIDEO input terminal. When selected, the VIDEO LED lights up. Set to this position also when switching the VIDEO and Y/C input by inputting the control signal to the EXT.CONTROL terminal.</p> <p>&lt;EXT.CONTROL&gt;</p> <p>Switches the input system of VIDEO and Y/C by inputting the control signal into EXT.CONTROL terminal. However, the LED of VIDEO keeps lighting.</p> <p>Control signal    High    : VIDEO                          Low    : Y/C</p> <p>When the control input terminal is open (at normal state), High is selected which subsequently leads to the selection of VIDEO input signal.</p>
Y/C	<p>The Y/C input terminal is selected.</p> <p>When selected, the LED of Y/C lights up.</p>
RGB	<p>The RGB input terminal is selected.</p> <p>When selected, the LED of RGB lights up.</p>



## ● STATUS indication switch

- Cyclically changes and allow you to check each setting condition.



### Example: STATUS indication Page 1

1. HOUR	1000H
2. INPUT	VIDEO
3. MULTI	ON
4. COLOR MODE	1
5. COMBI.	ON
6. INFORM.	ON
7. BAUD RATE	4800BPS
8. FLICKER F.	ON

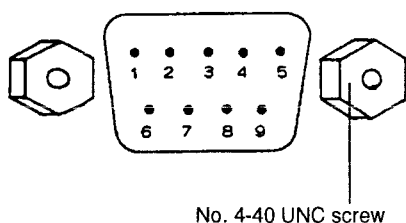
- 1: Indicates the accumulated power-on time. (See the note on page 7.)
  - 2: Indicates the input switching status.
  - 3: Indicates the MULTI ON/OFF status.
  - 4: Indicates the COLOR MODE 1/2 status.
  - 5: Indicates the COMBINATION ON/OFF status.
  - 6: Indicates the INFORMATION MODE ON/OFF status.
  - 7: Indicates the communications speed in computer control.
  - 8: Indicates the input NTSC and PAL is normal-scanned or double-scanned (ON:double-scanning)
- \* When set to ON, the screen may be distorted for non-standard signals.

### Example: STATUS indication Page 2

9. TV SYSTEM	AUTO
A. CONV. (COMP)	MEMO-1

- 9: Indicates the TV SYSTEM status.
- A: Indicates the memory area status of the selected convergence.

## [RGB-2 terminal]



Analog RGB : 0.7Vp-p (75Ω)  
 Synchronization signal : 1 to 4Vp-p (75Ω)  
 Connector : 9-pin D SUB connector (Male)

Pin assignment

1 : R	6 : GND
2 : G/Sync on G	7 : VD
3 : B	8 : NC
4 : Signal GND	9 : NC
5 : HD/Sync	

## [VIDEO input]

The video output terminal serves as the input through-out terminal.

When connecting other devices, terminate the connected terminal at 75Ω and turn OFF The 75Ω termination switch of this unit.

When not connecting other units, be sure to turn ON the termination switch.

# Specification

## Model

40-inch Multiprojection unit (RM-V4000VE)

50-inch Multiprojection unit (RM-V5000VE)

TV system ..... NTSC/PAL automatic/manual switching  
(with fixed mode)

Projection tube ..... 7-inch CRT x 3

Horizontal resolution .... 800 TV lines (For video input) \*1

Luminance (at white peak) ..... 600ft-L \*(RM-V4000VE)  
420ft-L \*(RM-V5000VE)

Effective viewing angle.. Horizontal: 150° Vertical: 60° \*1

## Input signal

Video input ..... Standard level (75Ω load) 1Vp-p  
Input terminal BNC connector x 1

Y/C separation ..... Standard level (75Ω load)

Luminance (Y) signal 1Vp-p (with synchronization signal)

Color (C) signal 286mVp-p (Burst signal <NTSC>)  
300mVp-p (Burst signal <PAL>)

Input terminal BNC connector (Y and C, 1 each)

RGB input ..... Analog R, G, B signals

Horizontal: 15 kHz to 35 kHz (automatic switching)

Vertical: 50 Hz to 150 Hz (automatic switching)

RGB-1: BNC connector x 5 \*3

RGB-2: D-Sub 9in connector x 1 \*3

R: Red input, 0.7Vp-p ±2dB, 75Ω terminated,  
positive polarity

G/G SYNC: Green input, 0.7Vp-p ±2dB, 75Ω terminated,  
positive polarity

Synchronized green input, 1Vp-p ±2dB,  
75Ω terminated, positive polarity

B: Blue input, 0.7Vp-p ±2dB, 75Ω terminated,  
positive polarity

SYNC/HD: Composite synchronization input, 1 to  
4Vp-p, 75Ω terminated,  
positive and negative polarities  
Horizontal synchronization input, 1 to  
4Vp-p, 75Ω terminated,  
positive and negative polarities

VD: Vertical synchronization input, 1 to 4Vp-p, 75Ω  
terminated, positive and negative polarities

EXT control: BNC connector

Remote input: Mini jack

Interlocking input: 6-PIN DIN connector

## Output signal

Video output ..... Standard level (75Ω load) 1Vp-p  
Outputs the signal from the input terminal

Output terminal BNC connector x 1

Interlocking output: 6-PIN DIN connector

## Computer control

System ..... RS-232C (D-SUB 25 PIN)

Speed ..... (1200), (2400), 4800, (9600), (19200), BPS \*2

Power supply voltage ..... AC220V to 240V, 50/60Hz

Power consumption ..... Max. of 7.5A including the  
AC outlet (2.5A for only the main unit)

AC outlet (Max. 5.0A, 220-240V) ..... x 1

Operating temperature ..... 5°C to 35°C

Outer dimensions ..... 680 (W) x 490 (H) x 610 (D) mm  
(Excluding protrusions)

Weight ..... 50kg (Main unit)

## Accessories

Control cable ..... x 1

Used for controlling several Multiprojection units.

Instruction manual ..... x 1

Cable clip ..... x 1

Screw ..... x 1

\*1 RMS-V4011/RMS-V5011 (40/50-inch projection  
screenkit)

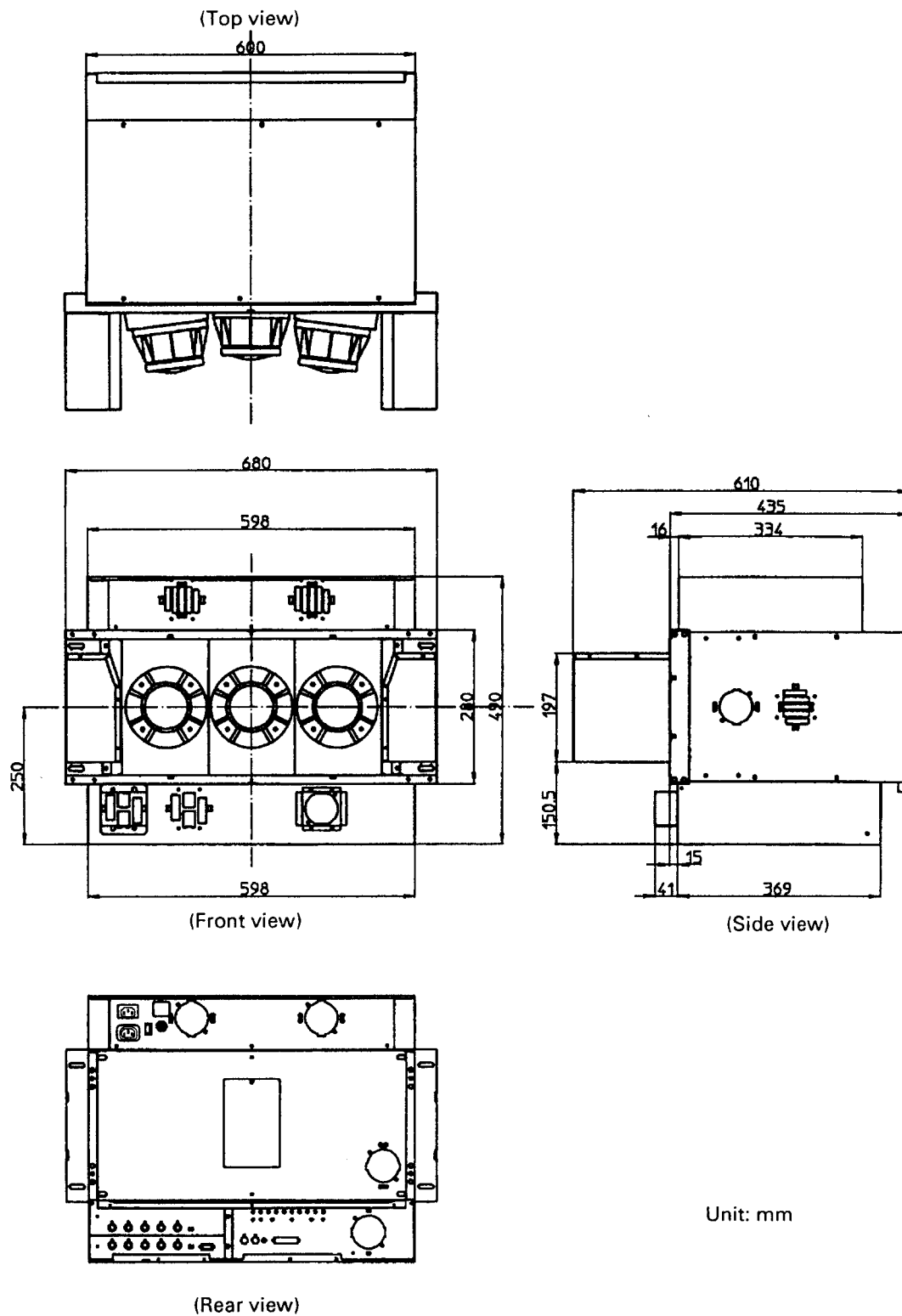
RMF-V4011/RMF-V5011 (40/50-inch projection frame)

Specifications are those when items above are installed  
as specified.

\*2 The line speed of RS-232C is set as 4800 BPS at shipping.

\*3 Only one of RGB-1/2 may be used at a time by switching.

## Dimensioned drawing



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